



**MISSOURI STATE
RECYCLING PROGRAM
2014 ANNUAL REPORT**

Acknowledgements

Published by the State of Missouri, Office of Administration, Division of Purchasing and Materials Management.

*Special thanks to the **Department of Natural Resources' - Solid Waste Management Program, Missouri Interagency Recycling Committee (MIRC)**, department recycling coordinators and purchasing staff who contributed to this report. The Missouri State Recycling Program thanks all **state employees** for their ongoing efforts to reduce, reuse, recycle, and buy recycled-content products.*

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Cover Page

The graphic on this year's cover page shows Missouri super-imposed on a likeness of the globe. This graphic was selected to show that not only is recycling local in nature, but it also illustrates that our day-to-day recycling habits also connect us to many other places on the planet as our scrap materials are exported to various countries to be utilized as raw materials in the manufacture of new products.

Economic impact of the recycling industry in Missouri includes:

- "Scrap & Waste" exports regularly rank in the top 15 exports for Missouri (MO Economic Research & Information Center)
- Employs over 28,000 workers (2005 MO Recycling Economic Information Study)
- Produces annual sales over \$5 billion (2005 MO Recycling Economic Information Study)
- Annual payroll over \$707 million (2005 MO Recycling Economic Information Study)

*A special thank you to the **Department of Economic Development's (DED) Marketing and Communications Team** for providing the graphic on the front cover of this report and **DED's Energy Division** for calculating the economic and environmental savings (see p.12).*





Jeremiah W. (Jay) Nixon
Governor

Doug Nelson
Commissioner

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Karen S. Boeger
Director

January 1, 2015

To the Members of the General Assembly of the State of Missouri,

In accordance with RSMo 34.031, the Office of Administration is submitting the Fiscal Year 2014 (FY14) Annual Recycling Report to summarize state government's accomplishments in the areas of recycling, waste reduction, and recycled content product procurement for the period of July 1, 2013 through June 30, 2014.

State law directs state agencies to implement policies for recycling, waste reduction, and procurement of recycled content products. The Missouri State Recycling Program, administered by the Office of Administration, Division of Purchasing and Materials Management, is responsible for assisting state agencies in these areas. The State Recycling Program works cooperatively with the Missouri Interagency Recycling Committee (MIRC) to facilitate recycling and waste reduction by state employees.

As a result of the efforts of state employees and MIRC, the Recycling Program continues to register solid financial returns and steady development of the State's recycling collection infrastructure. State employees continue to reduce the amount of waste generated at state facilities and the related costs of waste disposal. Waste reduction achievements of several agencies are summarized on pages 13 – 16 of this report.

We appreciate the support of the General Assembly in our recycling efforts.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Nelson", written over a horizontal line.

Douglas E. Nelson
Commissioner of Administration

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I. Missouri State Recycling Program Organization

What is the Missouri State Recycling Program?

The Missouri State Recycling Program (**MSRP**) was established in 1989 when legislation added sections 34.031 and 34.032 to Chapter 34 of the MO Revised Statutes. The purpose of the **MSRP** is to assist State of Missouri government agencies with:

- **Procurement** of products manufactured with recycled materials.
- Coordinating **waste reduction** strategies.
- Overseeing the **collection** of recyclables by establishing recycling services contracts.

Who is the MSRP?

There are three components to the **MSRP's** organizational chart.

The **state recycling coordinator** is dedicated to the planning and administration of recycling and waste reduction activities.

The **Missouri Interagency Recycling Committee** serves an important purpose by providing input on recycling initiatives and communicating with state employees about various recycling programs.

The efforts of **state employees** to recycle ensures the success of any recycling initiative. State employees that recycle are considered a part of the **MSRP**.



What is the Missouri Interagency Recycling Committee?

The Missouri Interagency Recycling Committee (**MIRC**) was established in 1994. It was recognized the **MSRP** needed a way to communicate procurement and recycling policies throughout state government. **MIRC** is a vital component of the **MSRP** and meets regularly to discuss recycling collection, waste reduction, recycling market conditions and recycled product procurement.

Who is MIRC?

The Recycling Committee is composed of representatives from various state departments (executive, judicial, and legislative). To learn more about recycling in your department, please contact your **MIRC** member.

A list of members is located on the Internet at <http://oa.mo.gov/sites/default/files/mirc.pdf>

Missouri Interagency Recycling Committee (MIRC)

By communicating “buying recycled” procurement and recycling collection programs to their respective departments, MIRC members function as the core of the MO State Recycling Program (MSRP). The work of committee members varies - from providing important input regarding MSRP projects such as recycling contracts to monitoring recycling containers to ensure these are being emptied.

Each year MIRC members are involved with the annual recycling award process by submitting and voting on the nominations. Another yearly process requiring MIRC member attention is the annual recycling questionnaire. The questionnaire is a key component of the process related to the annual recycling report. Results of the FY14 recycling questionnaire can be found on pages ten, eleven, eighteen, and nineteen of this report. The annual reporting process provides an important assessment of state government recycling efforts each fiscal year.



Tony Pierce (standing), Dept. of Natural Resources Presenting to MIRC

MIRC members also assist with recycling at numerous events throughout the year - including the Department of Natural Resources' Earth Day celebration and the Missouri State Fair.

2014 MIRC Members



L. to R. Sitting: Kristin Allan Tipton (EIERA), Angie Bisges (OSCA), Rachel Dietzel (DESE), Nancy Tennison (STO), Debbie Davis (DivCU) | **Standing:** Gary Burlingame (DOR), Gary Stoll (DOC), Rhonda Fogelbach (DPS), Mike Haake (DMH), Kevin Baclesse (DSS), Stowe Johnson (MoDOT), Anita Stansfield (DNR), Ronald Childs (MOSERS), Rob Didriksen (OA), Greg Bernskoetter (DED) | **Not Pictured:** Jason Penerum (OA), Glenda Vanderfeltz (OA), Alan Clements (MDA), Karen Wood (MDA), Jim Aslakson (MDC), Jennie Rees (DOC), Ron Doerhoff (DED), Joanie Cook (DESE), Rhonda Dormire (DHSS), Leroy Wade (DHE), Kim Sandbothe (DivFIN), Leanne Lorts (DivPR), Terry Doerhoff (DOLIR), Brenda Ardrey (DNR), Deb Goodman (MOANG), Lisa Tyree (MOANG), Joe Spencer, SFC (MOANG), Brenda Davis (DOR), Mitch Kolb (Lottery), Stacey Jacobs (STC), Jeff Thomas (MCHCP), Judy Murray (Governor), Kerry Kroll (AGO), Mark Henley (Auditor), Nathan Troup (SOS), Don Dickey (Supreme Court), Dawn Korsmeyer (Supreme Court), Brad Werner (House), Jon Burton (Senate), Barbara Morrow (HSSU), Benny Lewis (HSSU), Hiedi Carlin (MSSU), Carey McMillian (MWSU), John Viau (NWMSU), Sarah Steinnerd (SEMO), Angie Mitchell (SEMO)

Photos this page taken by: Maryann Craig

II. FY14 Overview: Collection of Recyclables

Local Recycling Services Contracts

During Fiscal Year 2014 (FY14), the Missouri State Recycling Program (MSRP) administered three local recycling services contracts.

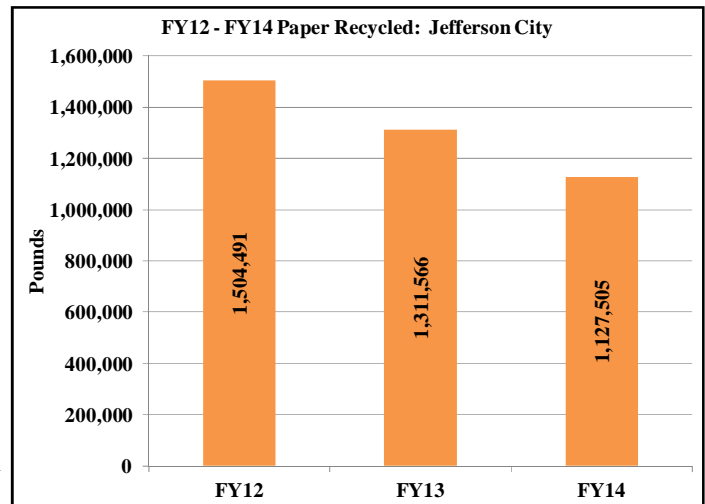
State agencies in Jefferson City, Kansas City, and St. Louis had access to recycling services under these contracts for recycling of office paper and cardboard. In the Jefferson City and St. Louis areas, the contracts provided state agencies with an option to recycle commingled materials such as plastic bottles and aluminum cans.

Jefferson City

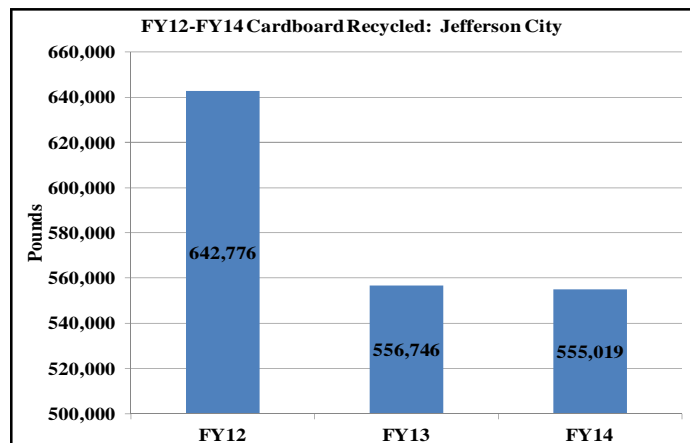
Mixed paper is the most recycled material by weight and volume by state agencies in Jefferson City. There were eighty-five locations recycling mixed paper in FY14. State agencies recycled an average of over 21,000 pounds of paper each week in FY14. There was about a 14 percent drop in the amount collected in FY14 as compared to FY13. This may be attributable to more agencies utilizing document destruction services (see pg. 9) for paper disposal. Another reason for the drop may be related to a decrease in paper consumption as more state agencies utilize electronic media to conduct business.

The number of locations collecting cardboard for recycling in FY14 increased from fifty-two (FY13 locations) to fifty-six. Total cardboard collected — including baled and loose material — amounted to approximately 555,019 pounds.

This amount includes 72,619 pounds of baled cardboard collected from the Truman Building and the Highway Patrol warehouse. This means on average more than 10,000 pounds of cardboard is recycled per week by state employees in Jefferson City.



1000 pound bales of paper await shipment to a mill to make toilet paper, paper towels, or office paper



Jefferson City ... continued

The commingled beverage container recycling infrastructure continued to mature as four new locations were added to the collection route bringing the total number of locations to forty-five.

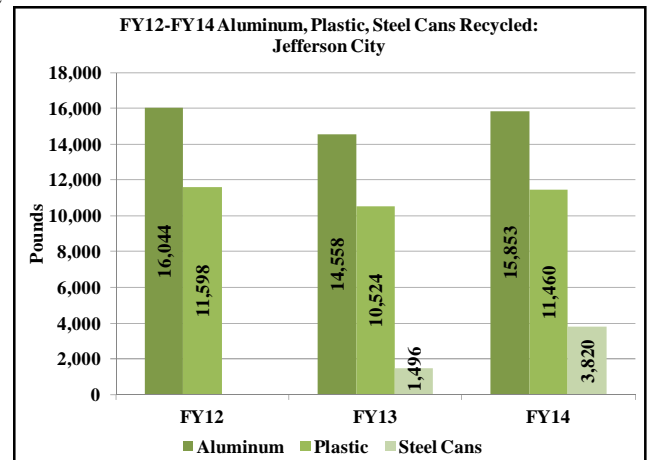


Can/Bottle collections from various offices in Jefferson City

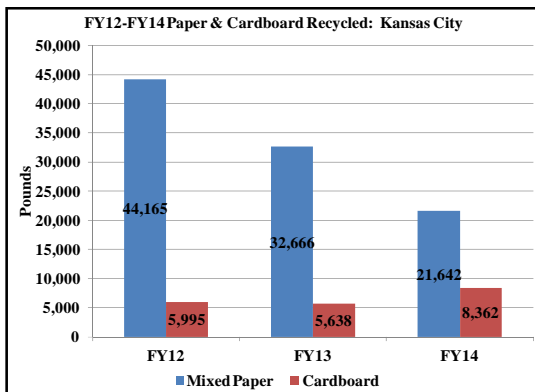
State agencies recycled a total of 15,853 pounds of aluminum cans; 11,460 pounds of plastic bottles; and 3,820 pounds of steel cans in FY14.

The subcontractor,

Kingdom Projects (a sheltered workshop), provided collection services for cardboard and commingled materials — sorting beverage containers at their recycling facility located in Fulton.



Kansas City



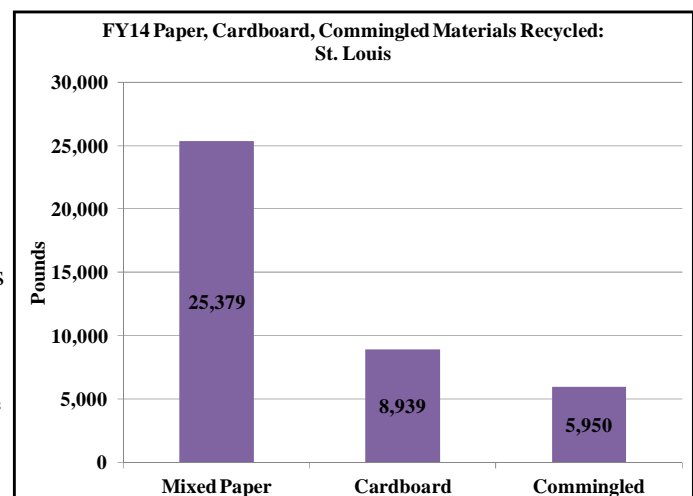
During FY14, the Kansas City contract offered state agencies the opportunity to recycle cardboard and mixed office paper. The amount of paper recycled in Kansas City in FY14 was 21,642 pounds which is a drop of about 34% when compared to the amount collected in FY13.

The amount of cardboard recycled by state employees in Kansas City increased about 48% in FY14 when compared to FY13. Total cardboard recycled in Kansas City for FY14 was 8,362 pounds.

St. Louis

The St. Louis recycling services contract was implemented in FY14 for the counties of St. Louis, St. Charles, Jefferson, and the City of St. Louis. The contract allows state agencies to recycle materials in two “streams” where fiber materials (paper and cardboard) are collected in one container and non-fiber materials such as aluminum, steel, and plastics are collected in a separate container.

Due to the contract being implemented in FY14, the collection data for the fiscal year only reflects ten months. Pounds of material recycled by state employees in the St. Louis area include 25,379 of mixed paper; 8,939 of cardboard; 5,950 of commingled materials such as aluminum and plastic. At the end of FY14 there were ten state agency locations on the collection route.



Statewide Recycling Services

The Missouri State Recycling Program (MSRP) administered two no-cost statewide recycling services for state agencies in FY14. These convenient services allowed state employees to recycle printer cartridges or rechargeable batteries. In addition, the Office of Administration's Division of Purchasing and Materials Management administered two fee-based contracts for document destruction and lamp recycling.

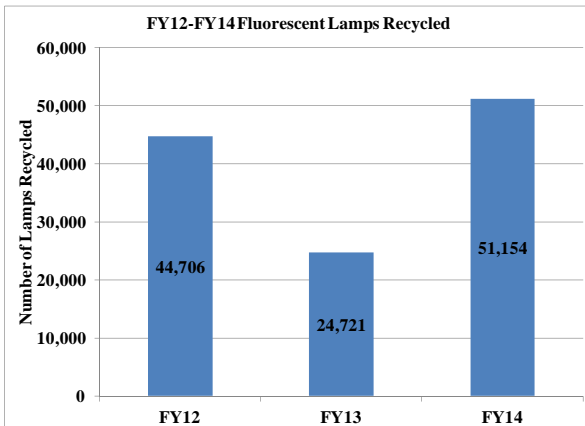
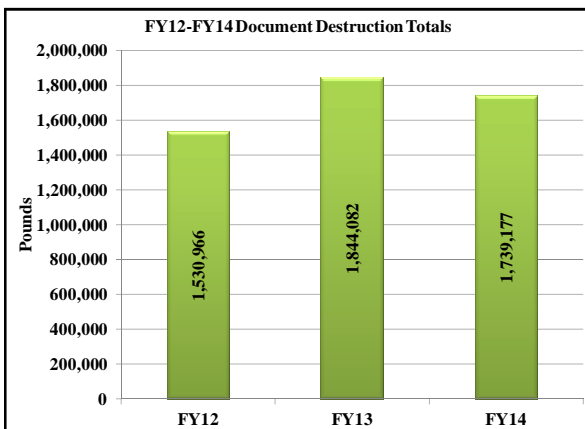
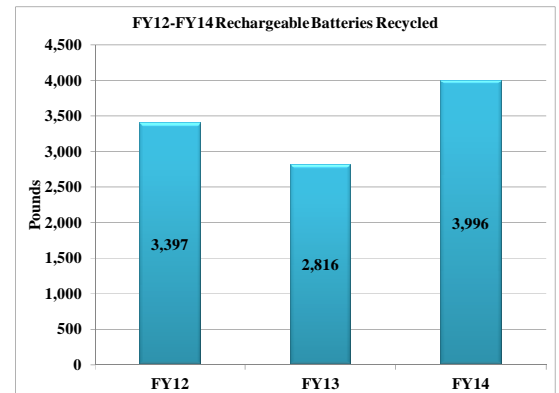
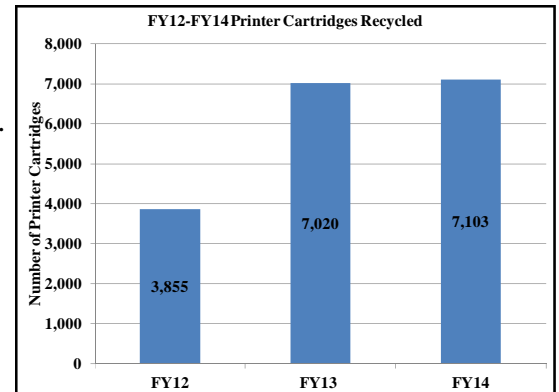
No-Cost Services

Printer Cartridge Recycling

State agencies have numerous options for recycling printer cartridges. The chart to the right details only those recycling activities where state agencies used either the State Recycling Program's printer cartridge collection service or MO Vocational Enterprises' (MVE) service. Agencies that returned printer cartridges to the "original equipment manufacturer" (OEM) are not accounted for in this chart. The total number of printer cartridges recycled or remanufactured in FY14 was about the same as in FY13.

Rechargeable Battery Recycling

Eight departments utilized the rechargeable battery recycling service in FY14 and recycled 3,996 pounds of rechargeable batteries. Over the past eleven years, Missouri state government efforts have resulted in the recycling of 42,234 pounds of rechargeable batteries. Twenty-three locations throughout Missouri utilized this service in FY14.



Fee-Based Services

Document Destruction Contract

This service contract provided state agencies throughout Missouri an opportunity to have confidential documents destroyed and the shredded paper recycled. Cost for services varied and was based on document volume and the location of the state agency. The chart to the left shows the amount of records destroyed in FY14 was about the same as in FY13.

Lamp & Ballast Recycling Contract

This contract allows for the recycling of fluorescent and incandescent lights and related equipment (i.e., ballasts), as well as non-rechargeable batteries. A couple of differences with reporting in FY14 as compared to FY13 — 1) small batches of lamps recycled through the prepaid service (available under the contract) are included for the first time in FY14. 2) Chapter 34 universities showed up on the report for bulk shipments for the first time. The State Recycling Program covered costs for several state agencies to recycle fluorescent lamps in FY14.

FY14 Department Reports of Materials Recycled

Number of Pounds Recycled	Agriculture	Attorney General	State Auditor	State Treasurer	Conservation	Corrections	Economic Development	Elementary & Secondary Educ.	Health & Senior Services	Higher Education	House of Representatives	Insurance, Finan. Inst., Prof. Reg.	Labor & Industrial Relations	MO Western State University	Mental Health	Natural Resources	Northwest Missouri State University	Office of Administration	Public Safety	Revenue	Secretary of State	Social Services	Southeast Missouri State University	State Courts Administrator	Transportation	Totals by Material	
Aluminum	C	C	C	C	226	39,197	C	C	394	C	C	C	C		9,399	15,602	3,358	393	1,040	C	C	C		C	135,897	221,359	
Ballasts					39									8			3,675	1,108							940	5,770	
Batteries-Non Rechargeable					52										1,472	372		51	10					26	45	2,028	
Batteries-Rechargeable					56	895								32	51	160		7,501	7,970					15	267	16,947	
Cardboard	10,500	C	C	C	3,820	1,351,541	C	C							111,450	19,790			34,848					C	39,915	2,144,184	
Commingled Materials*						C									C	C		C	C	C	C	C		C	1,000		
Electronic Scrap	509				100	7,627	387	4,978	4,198				635		575	54,337	374,480	9,773	24,565	6,193		5,461			221	432,634	
Food-Yard Waste						175,500									800	6,900	322,170		8,133							513,503	
Glass					260											7,275										7,535	
Magazines & Catalogs					300	10,350									858	1,514				20						13,042	
Mercury Devices																									107	107	
Mixed Office Paper	2,301	12,509	2,390	7,120	7,200	461,993	49,053	15,482	106,114	3,675	3,122	51,435	16,110		397,670	20,112		6,217	212,597	712,877	117,380	653,545		18,576	96,482	4,152,816	
Newsprint					790	2,620									14,550	2,273			C	C	C	C	C	C	C	2,925	23,158
Plastic	3,300				3,485	8,526			1,627						509	5,352	30,740	255	600		2,654				2,967	71,475	
Rubber, Scrap					1,940											14,212		26,068	84,480						722,058	848,758	
Scrap Metal	26,000				2,000	161,405									6,990	93,865	53,383	189,591	106,700	21,720					3,417,389	4,079,043	
Telephone Books					5										571	179									415	1,170	
Textiles						974												50	60,433							61,457	
Tin / Steel Cans					1,010	606,631	C	C							899	226		C	C	C	C	C	C	C	C	612,586	
Totals Reported by Agency	42,610	12,509	2,390	7,120	21,283	3,152,588	49,440	20,460	112,333	3,675	3,122	51,435	16,745	40	547,444	243,396	787,806	241,007	541,396	740,790	120,034	659,006	4,330	21,211	4,420,628	13,969,243	
Total Pounds Recycled in FY14:																									13,969,243		
(6985 tons)																									(6985 tons)		

Note on Boxes with C's: A "C" in a box on this table indicates an agency recycled the designated item by utilizing the Jefferson City (JC) recycling services contract. Materials collected via the JC contract include **Aluminum, Cardboard, Mixed Office Paper, Plastic, and Steel (tin) Cans**. A box that has a number over a "C" indicates the agency reported material that was recycled statewide, but not reported in the JC contract figures. For example, statewide Public Safety reported 1040 pounds of aluminum recycled and Public Safety offices in JC utilized the JC Recycling Contract to recycle aluminum.

Note on "Totals by Material": This column includes collection totals as reported by the recycling contractor or service provider for the following materials: **Aluminum, Cardboard, Commingled Materials, Electronic Scrap, Mixed Office Paper, Plastic, and Steel Cans**. These figures are summarized in a table on p. 11 of this report. Agencies that utilized a recycling contract, but do not appear in this table include: **Environmental Improvement Energy Resources Authority, Lottery, Senate, House of Representatives, Supreme Court, MO Consolidated Health Care Plan, MOSERS, Tax Commission, and Governor's Office**. Amounts of materials recycled by these agencies are included in the "Totals by Materials" column. (see explanation under "contractual reporting" on top of p. 11)

*The contents of "Commingled Materials" will vary from one location to the next. Typically "commingled materials" will include materials such as cardboard, paper, plastics, aluminum cans, books, glass and steel cans.

FY14 Department Reports of Materials Recycled (cont.)

Summary Information for Table on Page 10 for Contractual Reporting and Other Recycling Services

Total pounds recycled by agencies utilizing the Jefferson City, St. Louis, and Kansas City recycling services contracts are summarized in the table to the right. These figures are reported as cumulative totals. Due to contract reporting, data is reported by building and it is not feasible to separate data by agency where there are multiple agencies in the same building.

FY14 Total Pounds Recycled via Contracts	Jefferson City	St. Louis	Kansas City
Mixed Office Paper	1,127,505	25,379	21,642
Cardboard	555,019	8,939	8,362
Commingled		5,950	
Aluminum	15,853		
Plastic	11,460		
Steel Cans	3,820		

FY14 Total Pounds Recycled via Other Agreements	Electronic Scrap	362,516
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Total pounds recycled by agencies utilizing the electronics recycling service is summarized in the table to the left.

Number of Items and Gallons Recycled Table

Departments Reporting	Number of Items Recycled							Number of Gallons Recycled		
	Books, Bound Publications	Cell Phones	Fluorescent Lamps	Incandescent Lamps	Printer Cartridges	Fuel/Oil Filters	Pallets	Anti-freeze	Oil, Cooking	Oil, Motor
Agriculture						18			830	865
Conservation			1,052							1,175
Corrections		348			2,251		3,608	55	364	4,610
Economic Development					7					
Insurance, Financial Inst., Prof. Reg.					7					
Mental Health	25	8	350		726		419	15	2,030	410
Missouri Southern State University			5,119	80						
Missouri Western State University			4,845							
Natural Resources		1			805	72	106	16,040		698
Northwest Missouri State University			15,345	2			34,483			500
Office of Administration			14,783	2	1		453	50		2,703
Public Safety	50		4,716		2,468	9,002	768	100	250	12,965
Revenue					729					
Social Services					319					
Transportation		329	4,944	568	100	325	193	2,515		84,157
Treasurer's Office					151					
TOTALS	75	686	51,154	652	8,764	9,417	40,029	18,775	3,474	108,083

Note on Total Printer Cartridges: 1200 printer cartridges were recycled by employees using a statewide service for this item and are included in the TOTALS amount shown in this table. **Note on Agency-Specific Printer Cartridges:** Figures appearing for individual agencies may not be an accurate reflection of the number of printer cartridges recycled. In some buildings agencies utilize a centralized recycling drop-off for cartridges and it is not feasible to separate agency data once recycled. See p. 9 "Printer Cartridge Recycling" for additional explanation.

Measuring the Economic and Environmental Savings of Materials Recycled*

The Department of Economic Development, Division of Energy utilized the Environmental Protection Agency's Waste Reduction Model (WARM) as a way to measure the economic and environmental savings of materials recycled by state agencies in FY14. Essentially WARM is a life-cycle analysis tool that has been in development for over 10 years.

The WARM model helps us to better understand the benefits of alternative end-of-life waste management decisions such as recycling. This model is a lifecycle assessment tool which considers the energy usage and greenhouse emissions from raw material extraction until product disposal. This includes material assessment, all product transportation, manufacturing, and disposal. The model compares different disposal scenarios such as recycling, landfill, incinerating, composting, and source reduction.

The following carbon dioxide and energy reduction estimates include a majority of the materials listed in the tables on page 10 and top of page 11 of this report. Materials not included in the WARM model calculations include all items listed in the table entitled "Number of Items and Gallons Recycled" located on page 11. (books/bound publications; cell phones; fluorescent lamps; incandescent lamps; printer cartridges; fuel/oil filters; pallets; anti-freeze; cooking oil; and motor oil). In addition, the following items from the "Number of Pounds" table on p. 10 are not included in the WARM model calculations: textiles; mercury devices; batteries (rechargeable/non-rechargeable); and ballasts. These items are not included because the WARM model does not account for these materials.

Energy Reductions (Economic Benefits) Related to Recycling*

The amount of material recycled by state employees in FY14 resulted in an estimated reduction in energy use of 235,893,000,000 (over 235 billion) BTUs. This amount of energy is equivalent to ...

- **Conserving 2,144 households' annual energy consumption or ...**
- **Conserving 40,601 barrels of oil or ...**
- **Conserving 1,898,720 gallons of gasoline**

Carbon Dioxide Reductions (Environmental Benefits) Related to Recycling*

State of Missouri recycling efforts resulted in an estimated reduction of greenhouse gasses of 25,650 MTCO₂E (metric tons of carbon dioxide equivalent). This is equivalent to . . .

- **Removing annual emissions from 5,400 passenger vehicles or ...**
- **Conserving 2,886,217 gallons of gasoline or ...**
- **Conserving 1,068,742 cylinders of propane used for home barbeques or ...**
- **Conserving 138 railway cars of coal**

*Department of Economic Development, Division of Energy calculated these estimates utilizing the EPA's WARM model.



Missouri State Recycling Program Annual Awards

Each year the State Recycling Program accepts nominations for the Annual Recycling Award. Employees, departments, or agencies are eligible to be nominated for outstanding contributions made in the areas of recycling collection, waste reduction, and/or recycled content procurement. Members of the Missouri Interagency Recycling Committee review the nominations and vote for an individual and agency award. The State Recycling Program encourages nominators to submit information demonstrating the **value** of the nominee's recycling efforts. **Value** could include costs avoided, revenue generated, ongoing leadership/commitment/passion/enthusiasm, or environmental benefits.

FY14 Annual Recycling Awards

TEAM AWARD: For the second year in a row, **Northwest Missouri State University (NWMSU)** was selected by the MO Interagency Recycling Committee as this year's winner of the MO State Recycling Program's annual team award. For this award, NWMSU's **Hardscape and Recycling Team (HaRT)** was selected for their food service organics composting (food recycling) program which has allowed NWMSU to significantly increase the amount of waste diverted from the landfill. In FY14, NWMSU diverted 46% of their overall waste from the landfill.

The food service composting program started in 2011 when collection of food scraps and other compostable materials such as paper towels were collected in the kitchen area. Operating on a limited budget, members of HaRT repurposed scrap metal and equipment from the university's farm to facilitate collection of material from the kitchen. HaRT also repurposed farm equipment that is vital to their windrow composting operation.



Front Row L to R: Chris Redden, Danny Smith, Shawn Sisney, Kaitlyn Madsen, Jada Tressler, Les Chestnut, Danton Green, Bruce Devers, Travis Stokes | Back Row L to R: Bob Wiederholt, Josh Wiederholt, Rick Swaney (behind cowboy hat), Mike Adwell, Doc Bliley, Kurt Davis, Bryan Freemyer, Dave Atkins, Grady Hilsabeck, Bob Ebrecht, TJ Allen, Robert Archer, Alex Edwards

Composting at NWMSU has now become a key component of the overall campus food services and has inspired the cafeteria to make use of reusable plates, cups, and flatware. NWMSU composted (recycled) 322,000 pounds of organics in FY14 saving the university \$7,440 in landfill costs. The composting process has also turned a waste into a value-added product that provides a nutrient-rich compost. Finished compost is used extensively as a soil supplement in the Missouri Arboretum, greenhouse, and campus grounds.

INDIVIDUAL AWARD: Brian Duncan works in the Housekeeping section of the Office of Administration's Division of Facilities Management, Design and Construction and was selected by the MO Interagency Recycling Committee as this year's recipient of the individual award. Brian plays a key role with insuring the manageability and sustainability of recycling programs in various state agency locations. The Housekeeping section has taken a leadership role with recycling by regularly including recycling collection specifications in custodial contracts for state buildings.

Brian performs an important role in communicating with various stakeholders at numerous state offices — from tenants to the custodial contractors. One of the most dynamic environments where he operates is the State Capitol where there is a very large influx of tour groups and numerous special events throughout the year. This setting creates many challenges not present in other state facilities and Brian proactively manages the behind-the-scenes details of recycling in a way that minimizes problems. In addition, Brian has provided valuable assistance with the Zero Waste Challenge - a component of the annual Earth Day celebration on the Capitol grounds - for many years now.



L to R: Tammy Hickman, Vernon Morris, Brian Duncan, Jason Penserum, Colleen Mantle, Debra Jones

For several years now Brian has willingly assisted with distribution of recycling containers and supplies saving the State Recycling Program thousands of dollars in travel expenses. Over the past three years, Brian has distributed nearly 8,000 plastic liners to custodial contractors for use with can/bottle recycling containers in state facilities. Brian's actions impact all state agencies that make use of recycling services contracts.

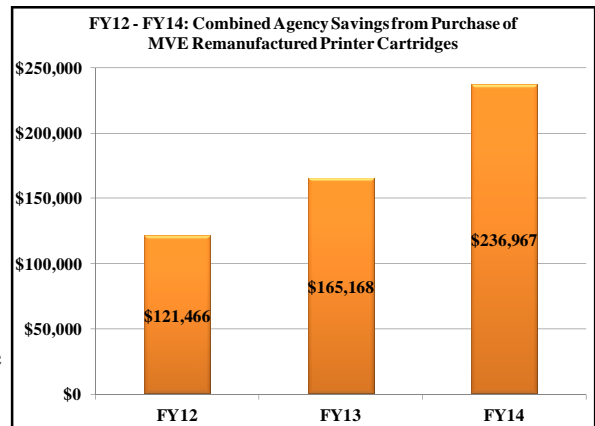
II. FY14 Overview: State Agency Waste Reduction / Recycling Accomplishments

Remanufactured Toner Cartridges: State Agency Savings

For more than 15 years, Missouri Vocational Enterprises (MVE) has offered a toner cartridge remanufacturing service for state agencies. This service has provided state agencies an opportunity to realize significant savings and reduce waste by reusing toner cartridges.

The chart to the right illustrates the combined agency savings over the past three years for agencies that purchased remanufactured toner cartridges from MVE. Savings are estimated by calculating the difference in price between MVE toner cartridges and non-recycled toner cartridges available from the office supply contract. From

FY12 - FY14, state agencies have saved more than \$500,000 dollars by utilizing services provided by MVE.



Department of Revenue Saves BIG with Remanufactured Printer Cartridges

Late in FY13, the Department of Revenue (DOR) decided to conduct a trial to procure remanufactured printer cartridges from Missouri Vocational Enterprises (MVE). In the first three months of purchasing MVE's remanufactured printer cartridges, DOR saved \$22,861 compared to purchasing these from the state's printer cartridge contractor.

FY14 marked the first full year that DOR purchased remanufactured printer cartridges which resulted in **savings of \$91,591.20** for DOR. Nearly quadruple the savings realized in FY13.

DOR's switch to remanufactured cartridges is not only fiscally responsible, but also environmentally responsible and will result in DOR's operations having less of an impact on the environment and Missouri's taxpayers.

State Agency Recycling Efforts Avoid Cost of Waste Disposal

The efforts of agencies statewide resulted in a combined total of **6,985** tons (see chart on p. 10) of materials recycled in FY14. If this amount of material had been sent to landfills it is estimated the State of Missouri would have paid at least **\$268,084** in waste disposal costs. It is possible to calculate this cost avoidance based on the average tipping fee charged to waste haulers in Missouri. Tipping fees are paid by waste haulers for each ton of trash disposed in Missouri's landfills. The average tipping fee in Missouri was \$38.38* per ton in FY14.

The tipping fee is only one cost of doing business as a waste hauler. In addition to the tipping fee, a waste hauler includes labor and transportation costs in the actual amount charged to its customers. Therefore, utilizing the average tipping fee to calculate cost avoidance represents a conservative estimate.

*Tipping fee source: Waste & Recycling News, May 27, 2013 issue

University of Missouri - Kansas City Places 2nd in National Recycling Competition



After claiming 1st place in 2013, the University of Missouri - Kansas City (UMKC) was beat by a small college in Seattle - placing 2nd in the Grand Champion contest for the 2014 national RecycleMania competition. Despite the 2nd place finish UMKC maintained an impressive 81% recycling rate which means that over three-fourths of the waste generated on campus was diverted from the landfill and recycled.

RecycleMania is a competition among colleges and universities in the United States that provides schools with a fun, proactive opportunity to increase awareness about waste prevention and recycling on their campus. Over a 10-week period, schools compete in different contests to see which institution can collect the largest amount of recyclables per capita; the largest amount of total recyclables; least amount of trash per capita; or have the highest recycling rate.

Missouri Schools Placing in the Top 50 for RecycleMania Competitions

Grand Champion Competition (256 participating)

University of Missouri - Kansas City (2nd)

University of Missouri - Columbia (26th)

Per Capita Classic (333 participating)

Washington University - St. Louis (31st)

Gorilla Competition (337 participating)

University of Missouri - Columbia (17th)

Washington University - St. Louis (24th)

Paper Competition (197 participating)

University of Missouri - Columbia (18th)

Missouri University of Science & Technology (25th)

Cardboard Competition (203 participating)

Missouri University of Science & Technology (28th)

In addition to the schools placing in the Top 50, the following Missouri schools participated in the 2014 national competition:

Maryville University of Saint Louis
Missouri State University
Northwest Missouri State University

Saint Louis Community College-Meramec
Saint Louis University-Main Campus
Webster University

The State Recycling Program applauds Missouri's colleges and universities for their participation in the national RecycleMania competition. (www.recyclemaniacs.org)

Surplus Property Reuse on the Rise

Widespread use of the Purchasing Committee (purchcomm) listserv in FY14 helped agencies to streamline the surplus property disposal process and save money. Essentially, the listserv is an email distribution list that allows agencies to communicate with other state agencies about property that is no longer needed. Purchcomm may also be used to find items that an agency needs to acquire. Typically, the exchange of property through the listserv does not cost state agencies any money. For FY14, it is estimated state agencies saved over \$230,000 as a result of utilizing the purchcomm listserv. The savings measured in FY14 marks the most savings generated for state agencies in the past three years and is double what agencies saved in FY13.

A state employee must subscribe to the listserv in order to participate with the purchcomm listserv. Since State Surplus Property policies apply to distribution of property via the listserv, it is a good idea for employees who normally handle disposal of property to subscribe. Here is a web link to the subscription page

<http://lists.mo.gov/mailman/listinfo/purchcomm>

FY14 Top 5 Items Reused Through the Listserv

1. 3-Ring Binders
2. Chairs
3. Laptop Bags
4. File Cabinets
5. Computer Cords

State Agencies Find Used Notebooks Are Popular

The Office of Administration's (OA) Division of Purchasing (DPMM) and Office of Equal Opportunity (OEO) continued the practice of distributing used 3-ring binders to other state agencies by utilizing the purchcomm listserv. This has provided other state agencies with the opportunity to save money by not having to purchase new notebooks.

OA/DPMM & OEO Notebook Reuse

Avg. # of binders distributed each year = 694
Avg. Annual Cost Avoided = \$1684

In FY14, over 1000 used binders were distributed to other state agencies by these two offices. During the time these small offices have been engaging in this practice, over 5,500 binders have been reused and generated over \$13,000 in estimated savings for state government.

Department of Revenue and Secretary of State Demonstrate Reuse Is More Valuable Than Recycling

Near the end of FY14, the Department of Revenue (DOR) was in the process of reconfiguring its warehouse operations and needed to dispose of 136 13-foot tall shelving units. DOR posted these shelving units to the Purchasing Committee (purchcomm) listserv and within a very short period of time all of the shelving units had been claimed by Secretary of State's Records Management (SOS-RM).

SOS-RM had been pricing shelving units and was looking at a price of \$617 per new shelving unit. As Nathan Troup, assistant director for SOS-RM indicated, "Used 13-foot commercial grade shelving isn't easy to find."

When DOR posted shelving units to the purchcomm listserv SOS-RM jumped at the opportunity to save funds. SOS-RM saved \$83,912 from this exchange of property with DOR. This is the largest savings generated from a single transaction on the purchcomm listserv since the value of property exchanged has been measured.

This is a good example of how much more valuable it is to reuse property as opposed to recycling. If DOR's metal shelving units had been sent to a scrap metal yard, it is estimated the scrap value for this many shelving units would have been around \$2,000. However, the value to SOS-RM was significantly more. This is a good reminder that in many cases reuse is more valuable than recycling.

FY14 Overview: Recycled Content Procurement

Recycling Program Guidelines for Buying Recycled

The State Recycling Program works with agencies to increase procurement of products containing recycled content. This is commonly referred to as “**closing the loop**”. Recycling can only be successful if products produced from recyclable materials are then purchased. The State Recycling Program has adopted the Environmental Protection Agency’s (EPA) “**Comprehensive Procurement Guidelines (CPG)**” for recycled content products as a roadmap for the State of Missouri to continue working towards “**closing the loop**”.

Evaluation Criteria for Products Listed Under CPG:

- Availability of product
- Impact of procurement on the solid waste stream
- Economic and technological feasibility of producing the product
- Other uses of the recovered materials used to produce the product







There are eight categories designated in the CPG. Product categories and individual items in these categories are listed below. **Products identified by the recycling symbol  appear in the Missouri Recycled Products Directory** published by the Environmental Improvement and Resources Authority’s Market Development Program. This publication is a good resource for locating recycled products manufactured or distributed in Missouri. Additional information about this directory may be found in the “Recycling Resources” section on page 22 of this report.

Product Fact Sheets may be found for each of the eight categories on the internet at the following address:




<http://www.epa.gov/epaoswer/non-hw/procure/factshts.htm>

Comprehensive Procurement Guidelines: Recycled Product Categories





1. Construction Products

-  **Building Insulation**
 - Carpet (polyester)
 - Carpet Cushion
 - Laminated Paperboard
-  **Cement & Concrete Containing**
 - **Coal fly ash**
 - Furnace slag
 - Ground granulated blast
 - Cenospheres
 - Silica fume
- Consolidated & Reprocessed Latex Paint
- Floor Tiles
- Flowable Fill
- Modular Threshold Ramps
- Nonpressure Pipe
-  **Patio Blocks**
 - Railroad Grade Crossing Surfaces
-  **Roofing Materials**
-  **Shower & Restroom Dividers/Partitions**
-  **Structural Fiberboard**




2. Landscaping Products

-  **Compost & Fertilizer Made from Recovered Organic Materials**
 - Garden & Soaker Hoses
-  **Hydraulic Mulch**
 - Lawn & Garden Edging
-  **Plastic Lumber Landscaping Timbers & Posts**

3. Park & Recreation Products

-  **Park Benches & Picnic Tables**
-  **Plastic Fencing**
-  **Playground Equipment**
-  **Playground Surfaces**
 - Running Tracks

4. Paper Products

-  **Commercial/Industrial Sanitary Tissue (paper towels & toilet paper)**
 - Miscellaneous Papers
 - Newsprint
-  **Paperboard & Packaging Products**
-  **Printing & Writing Papers**

5. Nonpaper Office Products

-  **Binders, Clipboards, File Folders, Clip Portfolios, & Presentation Folders**
-  **Office Furniture**
-  **Office Recycling Containers**
-  **Office Waste Receptacles**
 - Plastic Desktop Accessories
 - Plastic Envelopes
 - Plastic Trashbags
-  **Printer Ribbons**
-  **Toner Cartridges**




6. Vehicular Products

- Engine Coolants
- Rebuilt Vehicular Parts
- Re-Refined Lubricating Oils
- Retread Tires

7. Transportation Products

- Channelizers
- Delineators
- Flexible Delineators
- Parking Stops
- Traffic Barricades
- Traffic Cones

8. Miscellaneous Products

-  **Awards & Plaques**
 - Bike Racks
 - Blasting Grit
 - Industrial Drums
 - Manual-Grade Strapping
-  **Mats**
-  **Pallets**
 - Signage
 - Sorbents

State Agencies Close the Loop with Paper Procurement






Paper is the most common recycled product purchased by state agencies. RSMo 34.032 established attainment goals for state agencies to purchase certain percentages of products made from post-consumer recovered materials.

FY14 Purchases of Recycled Paper Compared to Virgin Paper

Product Category	Recycled Paper Purchases	Virgin Paper Purchases	Recycled Paper Purchases as a % of Total Purchases in Product Category		
	FY14	FY14	FY14	FY13	FY12
Fine Paper Products (office, copy, fax)	\$1,585,397	\$1,982,411	44%	37%	39%
Course Paper Products (napkins, towels, tissues)	\$3,350,547	\$210,975	94%	93%	67%
Forms (continuous & snap out)	\$255,387	\$8,988	97%	99%	96%
Envelopes (Plain or Printed)	\$873,616	\$21,748	98%	98%	99%
Printing by contractors (40% of total charge is attributable to paper - figures appearing in this row represent paper cost only)	\$302,338	\$1,072,902	22%	26%	34%
Overall Totals	\$6,367,285	\$3,297,024	66%	60%	54%

Environmental Benefits of Buying Recycled Paper

The State of Missouri spent \$1,585,397 on recycled “Fine Paper Products” in FY14. This translates into approximately 57,029 cases of recycled paper. A majority of this paper is printer/copier paper made with 30 percent post-consumer recycled paper. Purchasing this type of recycled paper versus virgin paper translates into the following estimated savings:

-  10,265 trees
-  2,994,022 gallons of water
-  25,663 lbs. of air pollution
-  1,753,641 kw/hours of electricity
-  5.9 billion Btu – enough energy to power 57 homes in Missouri for a year!

Source: www.recycledproducts.org/calculator.html

FY14 Department Reports for Recycled Content Product Procurement

Non-Paper Recycled Content Procurement	Agriculture	Conservation	Corrections	Economic Development	Elementary & Secondary Education	Health & Senior Services	Higher Education	Insurance, Financial Inst., Prof. Reg.	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Social Services	Treasurer's Office	Category Totals
Ammunition												\$720				\$720
Batteries- Rechargeable			\$303						\$522			\$7,009				\$7,834
Carpet / Construction Materials		\$921	\$81,605		\$122,073					\$11,921	\$50,708	\$1,003		\$43,178		\$660,658
Cardboard Boxes			\$15,479		\$1,751	\$121		\$198	\$715			\$4,974				\$110,608
Food Svc Products			\$3,382													\$3,382
Janitorial Supplies			\$148,226		\$9,718	\$222	\$281		\$116	\$5,861	\$4,449	\$12,852			\$347	\$384,634
Metal Products			\$28,757	\$2,329	\$4,657	\$64		\$759		\$150,233		\$299,533	\$3,129,734			\$3,616,066
Office Supplies	\$800		\$1,738				\$152			\$8,423	\$300	\$8,435			\$5,551	\$498,155
Park Playground Supplies					\$1,406				\$771							\$95,276
Printer Cartridges, Remanufactured			\$216,127	\$1,200				\$510	\$492	\$24,330	\$60	\$3,199	\$91,591	\$4,139		\$359,152
Remanufactured Furniture									\$302							\$41,247
Refurbished Signs	\$160															\$160
Vehicle Maintenance Supplies			\$2,482						\$170		\$10,998					\$13,650
Transportation Products (cones etc.)									\$1,600							\$1,685
Agency Totals	\$960	\$921	\$498,099	\$3,529	\$139,604	\$406	\$433	\$1,467	\$4,688	\$200,768	\$66,515	\$337,005	\$3,221,325	\$47,317	\$5,897	
Total Dollars Spent on Recycled-Content Products in FY14 = \$5,793,226																

Notes: When adding figures in each row the following needs to be considered. **Carpet** contractors reported agency purchases of \$395,966. **Construction Materials** contractors reported purchases of \$171,250. **Office Supplies** contractors reported purchases of \$477,077. **Park & Playground Supplies** contractors reported agency purchases of \$83,022. MVE provided procurement figures for **Cardboard Boxes** (\$110,109); **Janitorial Supplies**-plastic bags (\$381,489); **Park & Playground Supplies** (\$10,077); **Remanufactured Furniture** (\$40,945); and **Transportation Products** (\$85). The total for **Remanufactured Printer Cartridges** includes \$17,504 of purchases that couldn't be attributed to a particular department. When adding the figures in each row -- these amounts need to be included in the sum. For additional information on recycled-content products and services from MO Vocational Enterprises see p. 22 of this report.

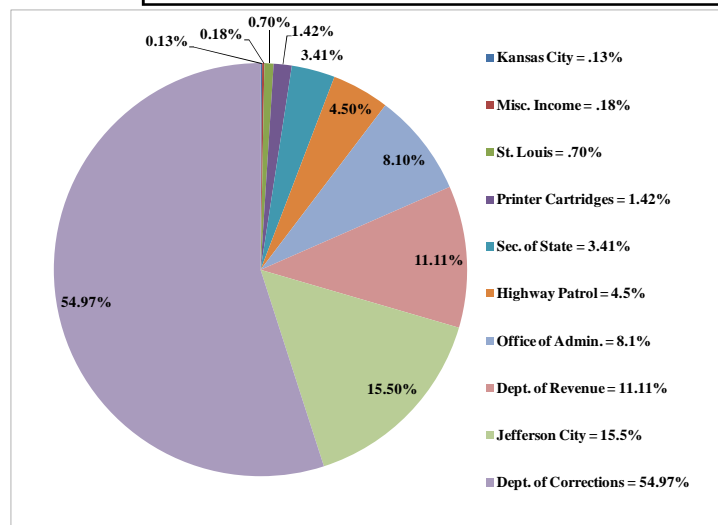
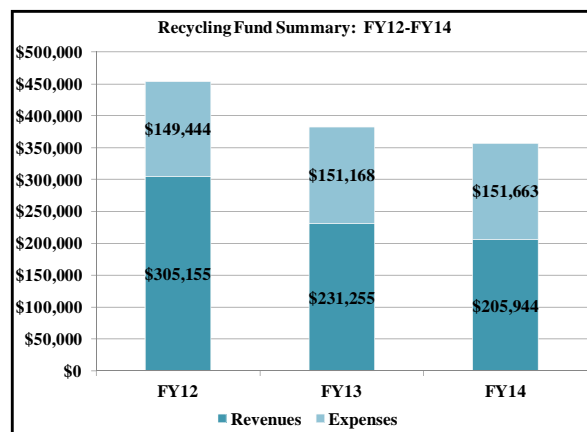
II. FY14 Overview: Missouri's State Recycling Fund

Missouri's State Recycling Fund was established by RSMo 34.032 which states that "Proceeds from the sale of recycled materials may be used to offset costs of the recycling program."

Recycling revenues dropped 11 percent from FY13 to FY14. Primarily this was a result of lower pricing on newly awarded recycling contracts. Secondary to this was weakened export demand for scrap paper.

In FY14, the MSRP distributed over 13,000 plastic bags to state agencies. A majority of these were used to collect aluminum cans and plastic bottles with a smaller percentage used for shredded paper. In addition, over 1,100 recycling containers were provided to state agencies in the Jefferson City and St. Louis areas in FY14.

A majority of these are being used for mixed office paper and a smaller percentage for can and bottle recycling. The MSRP also incurred significant expenses for the nearly 1,000 recycling labels and signs distributed in FY14. Other significant purchases made with monies from the State Recycling Fund included a baler for Farmington Correctional Center; fluorescent lamp recycling services; containers for the Department of Revenue's paper recycling program; baler supplies and maintenance; and supplies for in-vessel composters located at Ozark Correctional Center and Northeast Correctional Center. Expenses listed in the bar chart at the top of this page include operations, salary, and fund transfers to the Heating Assistance Program.

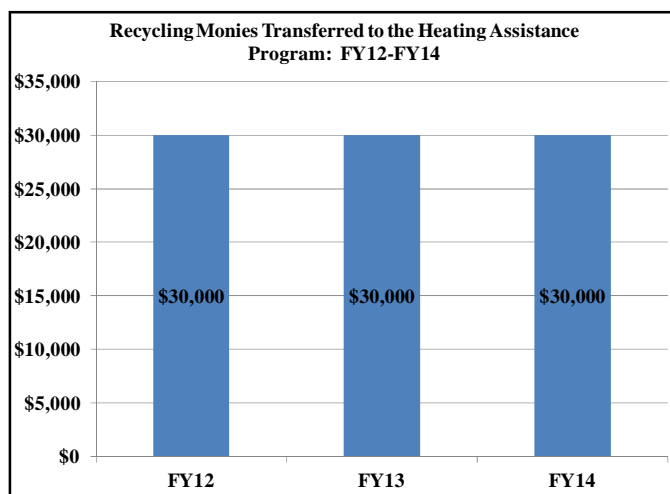


The top three sources of revenue in FY14 were the Department of Corrections (**55 percent**), the Jefferson City recycling contract (**16 percent**) and Department of Revenue (**11 percent**). (see chart above) The Department of Corrections (DOC) spends a significant amount of recycling funds on consumable products such as plastic bags and baling wire for securing bales of recyclable materials. This is due to the high volume of materials that DOC generates and recycles.

Contributions to the Heating Assistance Program (Utilicare)

Excess revenues from the sale of recyclable materials are transferred to the Heating Assistance Program managed by the Department of Social Services pursuant to RSMo 34.032. The Heating Assistance Program (HAP) - also known as Utilicare - provides financial assistance to low-income Missourians for heating their homes during winter months. The MSRP has transferred a total of **\$290,000** to the HAP since 2004.

As a result of state employee recycling efforts, the MSRP made a **\$30,000** contribution to the HAP in FY14. The \$30,000 transferred to the HAP in FY14 will help approximately 150 households in Missouri to pay their heating bills.



III. State Recycling Program Goals

FY14 Goals

Background: In FY13, there were seventy-eight state buildings in Cole County. This count includes state-owned and leased buildings managed by the Office of Administration (OA) as well as other state properties not managed by OA.

Goal #1: Increase the Cole County recycling services contract participation rate by 5 percent for each of the three material streams (mixed paper, cardboard, commingled materials) for state owned and leased buildings. By the end of FY14 participation rates will be . . .

- ∞ Mixed Paper: 70 out of 78 buildings = 89.7%
- ∞ Cardboard: 56 out of 78 buildings = 71.8%
- ∞ Commingled Materials: 45 out of 78 buildings = 57.7%

Revision to Goal #1: After determining a more accurate way to account for state buildings in Cole County, the number of buildings increased from 78 to 88. It was also determined the number of buildings recycling paper in FY13 increased from 66 to 82.

Result:

FY14 Number of State Buildings Utilizing the Cole County Recycling Services Contract to Recycle Various Materials (total bldgs in Cole County = 88)						
Material	FY13 Actual Locations	FY13 % of Participation	FY14 Target Locations	FY14 Actual Locations	FY14 % of Participation	Goal Status
Mixed Paper	82	82 of 88=93.2%	86	85	85 of 88=96.6%	3.4% increase
Cardboard	52	52 of 88=59.1%	56	56	56 of 88=63.6%	4.5% increase
Commingled	41	41 of 88=46.6%	45	45	45 of 88=51.1%	4.5% increase

Background: In FY13, the Office of the Secretary of State had a contract for “off-site document destruction services”. Based on the performance of this contract, the Office of Administration’s Purchasing Division awarded a contract for “off-site document destruction” services in FY14. This new contract along with cooperation from the Office of the Secretary of State will allow other state agencies to access these no-cost services. State agencies now have an option to avoid costs of on-site document destruction by redirecting documents to the off-site document destruction contract.

Goal #2: Increase utilization of the statewide “offsite document destruction” contract by 20 percent as compared to FY13. In FY13 131,580 pounds of documents were destroyed (recycled). In FY14 an additional 26,000 pounds of documents will be destroyed by agencies utilizing this service.

Result: This goal was not met as only 117,380 pounds of documents were destroyed by agencies utilizing the off-site document destruction contract.

FY15 Goals

Background: An important part of the recycling process is to purchase products made from recycled materials. This is commonly referred to as “closing the loop”. Procurement of recycled-content products helps to insure there are markets for scrap materials such as paper and plastic. In addition, RSMo 34.031 states, “The commissioner of administration ... shall give full consideration to the purchase of products made from materials recovered from solid waste ...”

Procurement of writing instruments (pens, pencils, etc.) made from recycled-content materials by state agencies in FY13 and FY14 from the statewide office supplies contract were 5.2% and 4.98% respectively.

Goal #1: Increase the percentage of writing instruments with recycled-content material procured from statewide office supplies contracts.

Background: In FY13 and FY14 state agencies purchased \$163,765 and \$189,936 respectively of 3-ring binders from the statewide office supplies contract. Average annual purchases of 3-ring binders for these two years is \$176,850.

Numerous state agencies utilize the Purchasing Committee listserv to dispose of 3-ring binders to other state agencies for reuse (see p. 16 of this report). By promoting the reuse of 3-ring binders within state government, procurement of 3-ring binders is expected to be reduced.

Goal #2: The total purchase amount of 3-ring binders from statewide office supplies contract in FY15 will be less than the two year average amount spent on 3-ring binders.

IV. Recycling Resources

Environmental Improvement and Energy Resources Authority / Market Development Program

Missouri Department of Natural Resources

Internet: <http://eiera.mo.gov/mo-market-dev-program/>

Email: eiera@dnr.mo.gov

Phone: 573-751-4919

The **Missouri Recycled Products Directory** is published by the Market Development Program. An excellent resource for finding Missouri based businesses that manufacture or distribute recycled-content products. The directory is available online at <http://eiera.mo.gov/mmdp-recycled-products-directory/>

Missouri State Recycling Program

Office of Administration

Division of Purchasing & Materials Management

Internet: <http://oa.mo.gov/purchasing/missouri-state-recycling-program>

Email: recycling@oa.mo.gov

Phone: 573-751-2387

The Missouri State Recycling Program (MSRP) works with state agencies to increase purchases of recycled content products, reduce their waste stream and increase collection of materials for recycling. The MSRP web page is a good resource for state contracts that offer recycled content products as well as recycling services.

Solid Waste Management Program

Missouri Department of Natural Resources

Internet: <http://www.dnr.mo.gov/env/swmp/index.html>

Email: swmp@dnr.mo.gov

Phone: 800-361-4827 or 573-751-5401

The Solid Waste Management Program (SWMP) works with citizens, businesses, industry, and government to continue increasing material reuse and recycling. The SWMP web page is an excellent resource for information dealing with all aspects of solid waste management in Missouri.

Missouri Vocational Enterprises (MVE)

Missouri Department of Corrections

Internet: <http://www.doc.mo.gov/mve>

Phone: 800-392-8486 or 573-751-6663

The Department of Corrections vocational training program offers the following products and services that meet “buy recycled” criteria. MVE products and services are only available to state agencies and other tax-supported entities.

MVE Recycling/Remanufacturing/ Refurbishing Services

- Tire Recycling Service
573-635-3825
- Toner Cartridge Refill Service
573-751-3224 ext. 1260
- Furniture & Office Panel (cubicle) Refurbishing
573-751-6663 or 800-392-8486

MVE Recycled-Content Products

- Cardboard boxes: 65 percent post-consumer content
- Plastic bags: 30 percent recycled material
- Metal products: 28 percent post-consumer content
- Toilet paper: 40 percent recycled material
- Envelopes: 30 percent post-consumer content